

Section 5

Missouri River - Hauser Tailwater (Hauser Dam to Holter Reservoir)

The free flowing segment of the Missouri River located between Hauser Dam and Holter Reservoir is about 4.6 miles long and flows through a narrow, high-walled gorge for most of its length prior to entering into upper Holter Reservoir. Impounded water from Holter Dam greatly influences the lower 1.5 miles of river. Productivity in this river segment is affected by the two upstream reservoirs (Canyon Ferry and Hauser). Deep-water releases from Canyon Ferry Dam and associated releases from Hauser Dam create tailrace conditions where water temperatures are moderated and the water is enriched with nutrients.

One of the unique aspects of this area is that access is limited to foot or boat travel because of the ruggedness of the canyon. Boating restrictions imposed during the 1999 legislature established a no-wake zone in this section of river from Hauser Dam to Beaver Creek. Areas accessible by car include Hauser Dam, Beaver Creek, and Gates of the Mountains Marina (private ownership).

This segment of the Missouri River has been designated as a Class I, Blue Ribbon sport fishery. The river provides important spawning habitat to brown trout, rainbow trout, kokanee, and mountain whitefish. Species of fish present in the river are similar to those found in Hauser and Holter Reservoir (Tables 6 and 7). Mountain whitefish and rainbow trout are the most abundant game fish species and suckers are the most abundant nongame species.

Management History

Trout populations in this segment of the Missouri River were monitored nearly annually until 1987, when electrofishing surveys were discontinued because of concerns about potential adverse effects to spawning rainbow and brown trout. Due to increased fishing pressure and concerns over angler impacts to the fishery, electrofishing surveys were resumed during odd-numbered years in 2003. Historic estimates of the number of rainbow trout (longer than 9.0 inches) ranged from a low of 1,600 fish per mile (1983) to a high of 5,300 fish per mile (1986) while estimates conducted in the 2000s range from 1,900 fish per mile (2005) to 4,600 fish per mile (2003). Studies in 1995 and 1996 indicated that flushing of fish from Hauser Reservoir heavily influences the abundance and species of fish in this reach (Skaar and Humphrey 1996). Rainbow trout (Skaar and Humphrey 1996) and walleye flushing (Teuscher and Humphrey 1996) have been documented along with kokanee salmon. Apparently, fish are flushed both through turbines and over the Hauser Dam spillway. An increasing number of walleye have been caught in recent years, which corresponds with an increasing Canyon Ferry walleye population and years with high runoff. Walleye tagged in Canyon Ferry and Hauser Reservoirs have been recaptured in Hauser tailrace by anglers and FWP survey crews.

Historically, this section of the Missouri River has been managed as a wild trout fishery and, with the exception of McConaughy strain rainbow trout plants (1984 through 1986), has not been supplemented with hatchery fish. However, rainbow trout planted into Hauser and Holter reservoirs undoubtedly influence the resident population. Electrofishing data from 2007 indicated that approximately 35% of the rainbow population in the river was comprised of hatchery fish. Hatchery fish appear more susceptible to

angling, with 13% of hatchery fish exhibiting hook scars, versus only 8% of wild rainbows with hook scars during 2007 estimates.

Historical brown trout population estimates obtained during 1982 and 1983 indicated that 250 to 425 fish were residing in the river throughout the year and that approximately 1,000 migrant spawners entered the river segment every fall. The average total length of brown trout was exceptional, with fish longer than 18.0 inches comprising up to 48% of the population. Since these early estimates, brown trout populations have declined. Throughout the mid-1980s, the kokanee salmon population in Hauser and Holter Reservoirs increased dramatically resulting in concerns about the potential adverse effects that kokanee may have on this brown trout population. Current brown trout abundance is well below historic levels, averaging 130 brown trout per mile (2003-2007). Average size of brown trout is still exceptional, with an average length of 21-inches in 2007.

Fishing regulations on this segment of river allow for year around angling and differ from Holter Reservoir in that only one rod is allowed compared to two on the reservoir.

Prior to 1983, daily and possession limits for trout were 10 pounds and 1 fish, not to exceed 10 fish. Beginning in 1983, the Department implemented a more restrictive limit of 5 fish. In 1992, catch and release regulations were implemented to protect the remaining brown trout population. Currently (2009) brown trout remain catch and release only and rainbow limit is 5 fish daily and in possession, only 1 over 18-inches. Walleye limits are 6 daily and in possession, includes 5 under 20-inches and 1 over 28-inches.

Missouri River – Hauser Tailwater Management Goals and Limiting Factors

The management goal for the Missouri River below Hauser Dam is to provide a multi-species fishery focused on wild rainbow and brown trout, with walleye and kokanee providing a low level component to the fishery.

The following factors have been identified as limiting the fisheries production in the Missouri River below Hauser Dam. Until they are addressed, the fishery will not reach its full potential. These problems are directly affected by the management direction of Canyon Ferry, Hauser, and Holter Reservoirs.

- Walleye flushed from Canyon Ferry and Hauser Reservoirs into the Missouri River below Hauser Dam is an issue that influences the dynamics of the multi-species fishery. Detailed information on the magnitude of flushing rates from Canyon Ferry is needed to determine timing, magnitude, and influence of walleye flushing. Currently, no screening devices are in place on Canyon Ferry or Hauser Dams to limit the number of walleye flushed.
- Poor spawning conditions in Beaver Creek will continue to limit wild fish production in the Missouri River. Beaver Creek is the principal spawning stream that supports substantial runs of rainbow trout. FS data demonstrates that large beaver dams on the lower reaches (the first 1-2 miles upstream of the confluence with the Missouri River) can substantially impact fish passage to important upstream spawning gravels. Problems have surfaced in the past when angler groups and FWP have removed dams from Beaver Creek without consensus from FS. High sediment values and imbeddedness of substrates further compound spawning success. FS initiated designs for habitat improvements in lower Beaver Creek, however administrative and financial hurdles have suspended implementation.

- Whirling disease is a prominent player in fish management in Montana. This reach of the Missouri River provides exceptional fishing for wild rainbow trout as well as producing a substantial portion of the wild rainbow trout in Holter reservoir. Wild fish produced in the tailrace and Beaver Creek have a high chance of exposure to the disease. These runs could be adversely impacted if whirling disease is discovered. Whirling disease has not been found in these areas yet and testing will continue.
- Angling pressure is increasing because of the close proximity to the greater Helena area. The growing population in the Helena valley suggests that pressure will increase as the quality of this river section becomes widely known. Detailed creel surveys quantifying angler catch rates and satisfaction will be important in the management of this unique fishery.

Missouri River – Hauser Tailwater Management Goals by Species

Because of the proximity and association with Holter Reservoir and to a lesser degree Hauser Reservoir, many of the species specific goals for the river below Hauser are the same or similar as those stated for the reservoirs. FWP monitors fish populations via electrofishing on odd numbered years, however current angler harvest estimates are not available.

Rainbow Trout

Goals and Objectives:

Rely on rainbow trout (particularly wild rainbow trout) to provide a cost-effective, sustainable fishery.

- Maintain fall rainbow trout abundance at or above 3,500 rainbows per mile during fall electrofishing surveys.
- Manage angling pressure to sustain population and manage angler conflict.

Rationale:

This section of the Missouri River has always been managed as a wild trout fishery and, with the exception of McConaughy strain plants (1984 through 1986), has not been directly supplemented with hatchery fish. Rainbow trout planted into Hauser and Holter reservoirs have a significant influence on the resident population. Electrofishing data from 1986 and 1987 indicated that approximately 15% of the rainbow population in the river were comprised of hatchery fish. In 2007, 35% of rainbows captured during population monitoring were of hatchery origin. Increased use of this river section in recent years has led to increased conflicts between various recreational users in the tailrace (e.g., fly fisherman, bait anglers, boaters, guides). A no wake zone currently in place from Hauser Dam to Beaver Creek reduces some conflict between shore anglers and boaters, however poor accessibility in the canyon can make enforcement difficult.

Strategies:

- Continue fall electrofishing on odd-numbered years to monitor rainbow trout numbers. If rainbow trout abundance falls below 1,000 rainbow trout per mile, consider regulation changes to protect the wild trout fishery. Changes may include but are not limited to:
 - Seasonal closures and/or time of day closures.
 - Additional motorized restrictions (also see other Management Issues).

- Evaluation of guided fishing pressure and strategies to address the issue.
- Additional size restrictions to protect spawning-sized fish.
- Evaluation of predator (walleye) impacts to the wild trout fishery.
- Educate anglers about current regulations and rationale for management actions.
- Monitor reservoir-operating plans to ensure adequate stream flows in this river segment to support fish populations.
- Monitor whirling disease presence and identify management strategies to minimize the impacts of whirling disease.
- Encourage the development and maintenance of wild rainbow trout spawning and recruitment from the Hauser tailrace and Beaver Creek.
 - Continue work with FS for habitat and fish passage improvements in lower Beaver Creek.
 - Maintain the closure on Beaver Creek from November 30th to June 15th to protect spawning rainbow trout.
- Develop a multi-year angler creel census using FERC relicensing funds to evaluate angler catch rates, annual harvest of rainbow trout, percent of rainbows caught and released, among several other statistics.

Brown Trout

Goals and Objectives:

Rely on brown trout to provide a self-sustaining trophy component to the Hauser tailwater fishery.

- Maintain brown trout abundance at or above 150 brown trout per mile during fall electrofishing surveys.

Rationale:

Currently brown trout numbers appear to be limited by existing habitat and historically by competition with kokanee salmon for spawning areas. Tools to enhance brown trout numbers are limited to restrictive fishing regulations because habitat and flow conditions are considered good. Potential competition with kokanee salmon has been reduced due to failed kokanee reintroduction efforts in Hauser Reservoir. Brown trout could be adversely affected if kokanee abundance ever reach historic levels. In the interim, brown trout populations have a good chance to experience growth with catch and release regulations in place on this section of river and throughout Holter Reservoir.

Historically, during the fall spawning season, brown trout in the 5-10 pound size range would migrate into the river from Holter Reservoir. Fall population estimates documented that fish greater than 18 inches comprised up to 48% of the population. Anglers occasionally landed these large fish, however, historic catch rates were relatively low, averaging only 0.04 fish per hour. Historic harvest was also low with an estimated 700 brown trout harvested in 1983. Population estimates in 2007 were below historic

levels at 120 brown trout per mile. Large brown trout are still prevalent in this river section, with an average size of 21-inches in 2007 estimates.

Strategies:

- Maintain the catch and release fishing regulation for brown trout that was implemented in 1992 for this reach of the Missouri River and Holter Reservoir.
- Consider additional restrictions if brown trout numbers fall below 100 brown trout per mile during fall estimates.
 - Consider use of seasonal fishing closure during critical spawning periods.
 - Identify critical spawning areas and seasonally restrict fishing these areas if deemed feasible.
- Continue work with FS to improve potential spawning habitat in Beaver Creek.
- Develop a multi-year angler creel census using FERC relicensing funds to evaluate angler catch rates among several other statistics.
- Continue to monitor the Holter kokanee population and evaluate impacts to the brown trout population in the Hauser tailrace. Discontinue stocking or reduce stocking rates of surplus kokanee in Holter Reservoir if there are observable effects to brown trout abundance.

Kokanee Salmon

Goals and Objectives:

Rely on remaining kokanee salmon flushed from Hauser Reservoir and any natural reproduction and supplemental stocking that may occur in Holter Reservoir to contribute in a limited way to the multi-species fishery.

Rationale:

This fishery has been heavily supplemented through annual flushing of kokanee out of Hauser reservoir. Historically, kokanee spawned heavily in this river section but it now appears that survival of eggs to hatching is low. Due to unsuccessful attempts to reestablish the kokanee fishery in Hauser, kokanee abundance is low in the Hauser tailrace. Unless the Hauser fishery rebounds, this river section will rely upon natural reproduction or supplemental stocking of kokanee from Holter Reservoir.

Strategies:

- Depend on supplemental kokanee stocking and natural reproduction from Holter Reservoir to provide a low-level kokanee fishery to the Hauser tailrace.
- Reduce or discontinue stocking kokanee in Holter Reservoir if kokanee impact spawning of brown trout in the Hauser tailrace.

Walleye

Goals and Objectives:

Rely on walleye flushed from Hauser Reservoir, resident walleye, and migratory adults from Holter to contribute to a multi-species fishery.

Rationale:

Walleye trends in this river section largely mimic walleye trends from Hauser and Holter Reservoirs. Historic surveys and angler tag return data show many flushed walleye appear to remain immediately below the dams from which they are flushed. Investigations specific to the Holter reservoir walleye population determined that this river section plays a minor role for the Holter Reservoir walleye population (Binkley 1996). There is a trophy component to the walleye fishery in this reach, with large walleye (greater than 25-inches) caught by anglers, especially in the spring and fall months. Typically, not enough walleye are captured during fall electrofishing to produce a viable population estimate; therefore an abundance management goal for walleye is not set.

Strategies:

- Adjust river regulations to reflect regulations on Holter Reservoir to maintain consistent walleye management strategies between the river and the reservoir.
 - Increase daily bag limit to 10 fish daily, with only one fish over 28-inches. No harvest of fish between 20-28-inches. Possession limit of 20 fish.
- Develop a multi-year angler creel census using FERC relicensing funds to evaluate angler catch rates, annual harvest of walleye, percent of walleye caught and released, among several other statistics.

Other Missouri River – Hauser Tailwater Fisheries Management Issues

Walleye Flushing from Canyon Ferry Reservoir

Goals and Objectives:

Determine walleye flushing rates from Canyon Ferry Reservoir and evaluate measures to reduce or eliminate walleye flushing from Canyon Ferry Dam.

Rationale:

Walleye flushing out of Canyon Ferry into Hauser and Holter Reservoirs likely increases during high water runoff years. Increased walleye densities in Holter Reservoir and in the Missouri River will affect the balance of the multi-species fishery due to increased predation on trout, perch, and kokanee. It is unknown if walleye densities in the Missouri River will increase substantially over the long term with increased flushing from upstream. Walleye have historically been caught in low numbers in this reach. Recent walleye increases in upstream waters have brought about increased angler catch rates in this portion of the Missouri River. No screening devices are in place on Canyon Ferry dam to limit the number of walleye flushed.

Strategies:

- Request funding from Bureau of Reclamation to study walleye flushing rates and identify strategies to reduce or eliminate entrainment at Canyon Ferry Dam.

Habitat

Goals and Objectives:

Enhance wild fish spawning opportunities in Holter Reservoir and Missouri River tributary streams.

Rationale:

Spawning conditions in Beaver Creek will continue to limit wild fish production in the Missouri River. Beaver Creek is the principal spawning stream that supports substantial runs of rainbow trout. Habitat conditions in Beaver Creek have been degraded through a variety of land use activities. Agricultural development, roads on the floodplain, channelization, and pipeline construction have all contributed to the decline in quality habitat. Channel alteration has allowed beaver dams to block fish passage. Specific limiting factors include elevated fine sediment values, imbeddedness of substrates, channel straightening (loss of stream length), and loss of large woody debris recruitment. Recent fires and beaver colonization are other factors influencing fisheries production.

Strategies:

- Identify and complete enhancement projects that will benefit spawning and recruitment of wild fish in Holter Reservoir and the Missouri River below Hauser Dam. Work cooperatively with the FS to develop a fisheries management strategy for the Beaver Creek watershed. Specifically, find agreeable solutions to beaver management in Beaver Creek to facilitate use by wild fish.

Disease and Aquatic Nuisance Species**Goals and Objectives:**

Monitor the Missouri River below Hauser Dam and principal tributaries for whirling disease. Prevent introduction of exotic plant and wildlife species from entering the reservoir system.

Rationale:

Wild fish produced in this portion of the Missouri River and from Beaver Creek have a high chance of exposure to whirling disease. Due to the high amount of angler pressure, this river reach may be more susceptible to inadvertent introductions of nuisance species from anglers (i.e., improperly cleaned boats, waders, boots).

Strategies:

- Conduct in situ exposure testing for whirling disease in the Missouri River and/or Beaver Creek. Utilize statewide whirling disease monitoring program to conduct *in situ* exposure of fish to determine infection rates and severity.
- Educate anglers about aquatic nuisance species and how their spread can be prevented. Conduct angler and boat check stations during high use periods.

Creel Survey**Goals and Objectives:**

Determine angler catch rates and satisfaction on this reach of the Missouri River and Beaver Creek and make adaptations to strategies and regulations accordingly.

Rationale:

Creel surveys in this reach need to be updated to better direct adaptive management strategies. Increased use by boat and shore anglers, as well as increased use by guides could affect the wild trout fishery.

Strategies:

- Conduct an angler creel survey on the Missouri River and Beaver Creek to monitor angler catch rates, annual harvest, percent of fish caught and released, angler origin, species targeted, among several other statistics.
- Use collected creel data to implement adaptive management strategies for the Hauser tailrace.

Motorized Access**Goals and Objectives:**

Manage social conflict and maximize safety on this stretch of the Missouri River.

Rationale:

Substantial enforcement staff time has been expended patrolling the Hauser tailrace area during the spring due to the heavy boat and angler use. Currently a no-wake speed restriction is in effect from Hauser Dam downstream to Beaver Creek. Complaints are frequent regarding the heavy boat use in an area with substantial navigation hazards. Closing the area to all motorized boat use limits accessibility by many anglers due to the remote nature of the area.

Strategies:

- Maintain the no wake zone from Beaver Creek to the base of Hauser Dam.
 - Continue enforcement efforts to reduce conflicts between boaters and shore anglers, especially during high use periods.
- Monitor spawning activities and evaluate the effects of motorized boat use on spawning behavior.